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ABSTRACT

The purpose of this research was to look at the currency of the collection of a small public library and to determine the relationship between the amount of usage of the collection and the currency of publications in the collection. A 10% systematic sample was taken of the circulating nonfiction adult shelf list of the Franklin Public Library (FPL) in Franklin, Ohio. Biographies were excluded. The objectives of the research are to determine if the FPL circulating adult nonfiction book collection is current and to determine the relationship that exists between currency and usage of the collection. Data revealed that FPL past collection development of nonfiction materials has succeeded in meeting the currency guidelines proposed in the "Standards for Public Library Service in Ohio." The relationship between currency and usage was analyzed graphically by comparing average circulation during a 5-year time period to the age of the titles collapsed into 5-year time intervals. Data analysis revealed that titles less than 15 years old in the science and social science subject areas showed increased usage over titles greater than 15 years old. Humanities titles showed a more even distribution of usage across all time intervals. (Contains 18 references.) (Author/TMK)

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ED 367 358

Currency and Usage Study of the Franklin Public Library

A Master's Research Paper submitted to the
Kent State University School of Library Science
in partial fulfillment of the requirements
for the degree Master of Library Science

by

Sally Pearson

September, 1990

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Abstract

The purpose of this research was to look at the currency of the collection of a small public library and to determine the relationship between the amount of usage of the collection and the currency of publications in the collection. A 10% systematic sample was taken of the circulating nonfiction adult shelflist of the Franklin Public Library (FPL) in Franklin, Ohio. Biographies were excluded. Data revealed that FPL past collection development of nonfiction materials has succeeded in meeting the currency guidelines proposed in the Standards for Public Library Service in Ohio. The relationship between currency and usage was analyzed graphically by comparing average circulation during a 5 year time period to the age of the titles collapsed into 5 year time intervals. Data analysis revealed that titles less than 15 years old in the science and social science subject areas showed increased usage over titles greater than 15 years old. Humanities titles showed a more even distribution of usage across all time intervals.

Master's Research Paper by

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B.S., Muskingum College, 1975

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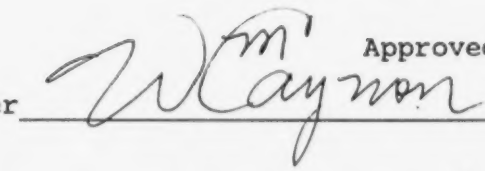
Adviser  Date _____

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Introduction and Problem Statement

"Collections are the concrete expressions of the public library's mission" (Wedgeworth 1986, 666). Public library collections must meet the needs of an extremely diverse audience and cover a vast array of subjects. The cultural, recreational, educational and rehabilitative functions of the library are supported by the collection. These collections should attempt to meet the needs of as great a portion of the community as possible.

Analysis of the collection can be achieved through the process of regular, systematic collection evaluation, which is defined by Lancaster (1977) as the process of assessing the quality of a library collection by comparing its performance, monitored by output measures, with the objectives of the agency or the needs of the target group of that particular collection. By comparing performance with objectives or patron needs it is possible to determine: a) whether there has been any change in performance for a given period of time; b) if so, whether the change is in the desired direction; and c) if so, to what extent.

A part of the mission of the Franklin Public Library (FPL) in Franklin, Ohio is to provide current, accurate and useful information to its community. The Standards for Public Library Service in Ohio (Ohio Library Association 1986) states that "all Ohio residents should have available in their local library an up-to-date collection, 25% of which are materials published

within the last five years".

The purpose of this research is to look at the currency of the collection of a small public library and to determine the relationship between the amount of usage of the collection and the currency of publications in the collection. This study is limited to the circulating adult nonfiction book collection. Excluded are fiction, biographies, reference materials, children's materials, periodicals, pamphlets, and non-print materials.

The objectives of this research are to: 1) determine if the FPL circulating adult nonfiction book collection is current, i.e., if 25% of the titles have publication dates of 1985 - 1989; and 2) to determine the relationship which exists between currency and usage of the collection as defined by the number of circulations of each title between 1985 - 1989.

The significance of this study is that it will: 1) establish a baseline with which to compare future currency studies; and 2) allow the FPL to gather data which will give some indication to what extent fulfilling its mission is dependent on the currency of the collection. Hopefully, this study will provide data for more effective collection development decisions, which involve balancing the demand for new books with the demand for depth of collection in specific areas, and aid in the development of more detailed goals and objectives within the written collection development policy.

Background

The FPL in Franklin, Ohio is a small public library (10,000 sq. ft.) serving the municipalities of Franklin, Springboro, and Carlisle. Collection development emphasis has been on providing useful information written in a more popular than scholarly style. Materials are cataloged using the Dewey Decimal Classification system. The Annual Report (Novak 1989) for the year ending December 31, 1989 indicated that the library had reported 48,146 volumes in its collection. That same report also provides the following information. There were 9,646 registered borrowers of which 6,881 were adults and 2,765 were children. Total circulation of all materials to library users in 1989 was 137,191 of which 82,151 was total adult circulation. Median household income for the municipalities of Springboro and Carlisle were above the median income for the State of Ohio. Franklin's median household income was slightly below state levels.

Literature Review

Library evaluation is conducted by breaking down the evalutation process into a number of separate evaluations of the individual components of the library. One component commonly evaluated is the library's book collection. "One reason for this is the obvious importance of the collection to all library activities. A second is the fact that the collection is something concrete and this makes it appear simpler to evaluate than services, which seem inherently more abstract" (Lancaster 1988, 17). Bonn (1974) identifies one of the distinct methods for evaluating library collections as compiling statistics on holdings and use. Analysis of circulation statistics by gathering data on age of titles (publication date) and usage (number of circulations) is often used to evaluate collection development decisions. "Use studies of recent acquisitions are often used by small public libraries as checks on current selection policy" (Bonn 1974, 272). Small public libraries have a real need to be aware of the use made of the limited number of books purchased for their collection. Many keep statistics on monthly subject class circulation to track proportionate use of selected parts of their collections.

In a public library, where the mission is not to support research or an undergraduate curriculum but to meet the information needs of a community, collection assessment based on quantitative variables other than size, such as date of publication of materials, subject, or amount of usage, may be the

preferrable basis for an assessment study. This permits more detailed comparison between these variables (Sandler 1986). "It is generally agreed that the straight count of titles added per year, i.e., current titles, is a more reliable indicator of collection quality than percent of growth" (Hall 1985, 10). This prevents penalizing a library with an active weeding program or a high loss rate .

Collection evaluation must not only involve collecting data about the materials but also data pertaining to its use. A. K. Jain in his 1967 Report on a Statistical Study of Book Use recognized two major collection centered methods for indicating use of library books (Jain 1967). The first involves gathering information on past use from a selected sample of books in the collection (collection sample). The second involves collection of data on all books checked out from the library during a specific period of time (checkout sample). Analysis of circulation statistics by either method will reveal volume of use by type of material. The advantages of the collection sample are that one can draw inferences about the library collection if the sample is random and also that information can be obtained on rate of usage of a particular group of books over a period of time. Jain's (1969) plan for sampling the total collection or an easily isolated section of the collection involves taking a systematic sample of the shelflist for the part of the collection under study. Disadvantages are that designing a sampling method and collecting data are difficult and that missing data cannot be

controlled.

The question of an up-to-date collection, as referred to in the Standards for Public Library Service in Ohio, has been addressed in a review article on obsolescence by Gapen and Milner (1981). They defined obsolescence as "the decline over time in validity or utility of information" (Gapen and Milner 1981, 107). This could be determined by studies which compare use at a particular time to the age of the items. Such studies are looking back in time as a means of evaluating past selection (Gapen and Miller 1981). It could be possible that not all information becomes less useful over time at the same rate. For those subjects with a slower rate of obsolescence, currency becomes less of a valid standard for utility of information, i.e., the ability of the information in a book to fulfill the needs of the patrons in a community.

The work of Fussler and Simon (1969) done in 1961 is a classic study involving collection centered methods to analyze book usage. The major purpose of this study was to determine if it was possible to predict with reasonable accuracy the frequencies with which groups of books with defined characteristics are likely to be used in a research library. Frequency of use data collected from circulation book cards over a 5 year time period was collected as an index of "value" of a given book. The relationship between frequency of use and age, reported graphically, was then used to identify little used books for storage. Findings showed that: 1) current titles received

more frequent use; 2) the sciences tended to become obsolete faster than the humanities; and 3) that past use was shown to be the best predictor of future use.

Thomas Galvin and Allen Kent (1977) initiated the Pittsburg study in 1975 to determine the extent to which library materials are used and the full cost of such use. Machine readable data from 1968 through 1976 was used to study collection use and chart the effects of age of materials on borrowing practices. One major finding of this study was that 40% of the books added to the Hillman Library in 1969 had never circulated during the first 7 years. By dividing the collection into LC classes, high risk (low usage) areas and low risk (high usage) areas were identified for acquisition purposes.

Ettelt (1978) duplicated portions of the Pittsburg study in a small community college library at Columbia-Greene Community College using a random 6% sample of the collection. Findings supported the previous studies of Galvin and Kent in that book use varied with subject matter. They also found that the older the book, the less likely it was to circulate.

A more recent study in which usage data has been interpreted and used to decide upon future collection management and acquisition decisions was conducted by Linda H. Bertland (1988). Data accumulated by a commercially available computerized circulation system was used to analyze usage patterns of a middle school library. While this study did not correlate currancy with usage, it did confirm the observation that library materials that

have not circulated within a certain time period have little probability of circulating again (Bertland 1988).

A 1982 study (Anderson 1983) of collection use at the University of Cincinnati Central Library was conducted to determine the usage characteristics of a medium-sized academic collection and to demonstrate the potential usefulness of such information to decision making. Usage data was gathered by Library of Congress subclassification and further breakdowns within each subclass were made by type of material (monograph or serial), decade of publication, and date of previous charge. Results showed that materials with recent publication dates received far more use than older materials although it was not possible to determine a cutoff date which would enable the library to meet 90% of user needs. Sciences and social sciences showed the greatest use of current materials while the humanities showed a more pronounced use of older materials. Results were visually analyzed after organizing the data into charts and graphs. No statistical analysis was done.

All of the above studies have been conducted on academic collections, both large and small, or, in the case of Bertland, a school library. Mueller (1965) compared the age of books to their circulation rate in six small public libraries. Three libraries showed a high new title circulation rate, while the other three showed no substantial circulation rate difference between new and old titles. Mueller did not suggest a relationship between age and usage but rather explained the

difference as a matter of accessibilty, either enhanced accessibility of new titles or inaccessiblity of old titles.

Circulation analysis has its limitations. It cannot evaluate the quality of a collection, in-library use, or whether the material was actually used as opposed to being merely checked out. It cannot predict which materials will definitely circulate in the coming year, but it can identify items that will probably not circulate again.

It can serve as an evaluation tool for past acquisition decisions and provide in quantitative terms a justification for both past and future expenditures. And, to whatever extent past use predicts future use, it can be part of the decision making process for formulation of future collection management and acquisition policies (Bertland 1988).

Methodology

In order to assess the status of the collection as to currency and circulation use, a descriptive study was conducted using the shelflist and book cards as the primary sources of data. The circulating adult nonfiction book titles were broken down into the ten broad Decimal subject classes, i.e., general subjects (000), philosophy (100), religion (200), etc. Galvin and Kent (1977) also divided the collection into subject classes (LC) in their study. Measuring the circulating nonfiction adult shelflist, excluding biographies, indicated a close approximation of just over 12,600 titles.

A 10% systematic sample was taken of the circulating nonfiction adult shelflist. This sample size was more than adequate as determined from the chart prepared by Kreucie and Morgan (1970). This sample technique involved taking every nth element from a list until the total list has been sampled. The population or total number of titles to be sampled was 12,600. The sample size was 10% of this number or 1,260. Using the formula $K = \frac{\text{population size}}{\text{sample size}}$, where K is the sampling interval, every 10th title was selected from the shelflist beginning from a random start among the first 10 titles (Powell, 1985).

The data collected included: 1) the publication date for each title in the sample; and 2) the number of times each title in the sample has circulated in each of the last five years, from 1985 - 1989.

The shelflist was examined to determine the publication

date. Examination of the book card for each title generated circulation data. Data was recorded in chart form.

The majority of the data collection was done by the primary researcher during and after library hours. This included examining the shelflist to create the working list which included each title in the sample along with its call number and publication date. The examination of the book cards of titles for frequency of use was then done by pulling books from the shelf.

Detailed procedure was as follows:

1) Researcher selected every 10th shelflist title as determined by the sampling procedure.

2) Researcher recorded for every title in the sample, the following: a) call number; b) author; c) abbreviated title (to facilitate pulling books from the shelf); and d) the publication date. This constituted the researcher's working list.

3) Researcher went to the appropriate shelf and pulled the books to examine the book card for usage, i.e., the number of times each title has circulated each year from 1985 - 1989. These numbers were recorded on the chart.

a) If the book card had been replaced, that information was recorded beside the frequency data in the appropriate area on the chart. It was impossible to assume the amount of previous usage and data was lost. A new book card could mean that the book has had high usage or merely that the previous book card has been lost. The researcher

recorded only the information available during the time period of the study. A rough tally showed 81 cards had been replaced or 6.4% of the sample.

b) If the book was not on the shelf, the checkout frequency area was left blank and the researcher proceeded on to the next title.

c) Each day after the student pages put the books in order for reshelving, those books were compared with the working list. Titles appearing on the list which have not been examined for circulation frequency were set aside for the researcher.

4) This procedure was repeated until data for all of the titles in the sample under study was collected.

A limitation of step 3 is that not all books were on the shelves and this was corrected for partially by intercepting returned books at the circulation desk for inclusion in the study. Some checkout frequency information for books which are severly overdue or lost was available for inclusion because the bookcards still were on file at the library. However, because of filing procedures this information was time consuming to retreive. If the title had been used heavily, the original book cards had been replaced and data was considered lost. The data was analyzed without this information. In house use of library materials was not addressed in this study.

Findings and Discussion

Currency data was evaluated by calculating simple percentages to see if the collection area under study falls within the 25% guideline established in Standards for Public Library Service in Ohio, using the following:

$$\% = \frac{\text{\# titles in the sample published from 1985 - 1989}}{\text{Total \# title in sample}} \times 100$$

Of the 1261 titles in the sample, there were 317 titles with publication dates between 1985 and 1989 inclusively. This represents 25.14% of the sample and falls just over the 25% established guidelines. Table 1 shows the distribution of sample titles by age intervals.

Since slightly over 25% of the titles were contained in one age interval, i.e., 1985 - 1989, it should follow that a large percentage of the usage (total circulation) should come from this group. Table 2 shows that titles with 1985 - 1989 publication dates account for slightly less than 1/3 of the total circulation. It is interesting to note that titles with publication dates form the last 15 years (1975 - 1989) account for 72.42% of all circulations.

Circulation of materials in the 1985 - 1989 time interval vary by subject. Table 3 shows total circulation data during 1985 - 1989 for each Dewey subject area. Percentage figures show that in 6 of the Dewey subject classes (100, 200, 300, 600, 700, 900) current titles account for over 25% of total circulation, while in 4 classes (000, 400, 500, 800) current titles account

Table 1. Distribution of sample titles by age intervals.

Publication Date Intervals	No. of Titles	% of Sample
1910 - 1949	46	3.65
1950 - 1954	17	1.35
1955 - 1959	72	5.71
1960 - 1964	97	7.69
1965 - 1969	166	13.16
1970 - 1974	127	10.07
1975 - 1979	161	12.77
1980 - 1984	258	20.46
1985 - 1989	317	25.14
Total	1261	100.00

for less than 25% of the total circulation. The most surprising of these is in the sciences (500) where currency would be considered most important. In the 500's, only 17.3 % of the total circulation came from current titles. One explanation could be the observed high usage of reference materials and periodicals, which are not part of this study, for current science questions.

To compensate for differences in the numbers of titles in each age interval, it was necessary to standardize the data by converting total circulation to average number of circulations per title from 1985 - 1989 in each age interval. While average

Table 2. Distribution of total circulations by age intervals.

Publication Date Intervals	No. of Circulations	% of Circulations
1910 - 1949	161	1.89
1950 - 1954	37	0.43
1955 - 1959	334	3.92
1960 - 1964	410	4.82
1965 - 1969	765	8.98
1970 - 1974	642	7.54
1975 - 1979	1139	13.38
1980 - 1984	2435	28.60
1985 - 1989	2592	30.44
Total	8515	100.00

circulation data demonstrates the importance of current titles, it also clearly shows the value of much used titles in age intervals that contain few books.

Data showing the relationship between currency and usage can be examined graphically in Figures 1 through 11. Histograms have been constructed which compare the average number of checkouts of sample titles from 1985 - 1989 against the publication dates collapsed into five year intervals. Since titles with publication dates from 1986 - 1989 had less than five years to circulate, i.e., 1 to 4 years respectively, the lighter shaded area represents an estimated average checkout rate approximating

circulation frequency if titles within these 4 years were allowed to circulate at the same rate for the full five years. The number of circulations for 1986 titles was multiplied by 1.25, 1987 titles by 1.66, 1988 titles by 2.5, and 1989 titles by 5. For example, if a 1987 title with 1 circulation per year in 1987, 1988, and 1989 (3 total circulations) were allowed to circulate at that same rate (1 circulation per year) for five years, the result would be 5 total circulations. The equation 3 x 1.66 = 5 used to estimate circulations would reflect this.

Figures 1 and 5 representing the general works (000) and language (400) subject classes, respectively, show some variance from the other subject classes. This is a result of too small of a sample in the 000's and 400's, which caused the calculated average circulation to be skewed by one title with extremely high or low usage. These are the smallest areas of the adult nonfiction collection and would need a greater than 10% sample before further conclusions can be drawn.

The subject area histograms, excluding the 000's and 400's, do show some trends relevant to past and future collection development at the FPL. All remaining subject areas, with the exception of the 800's, show an increase in the average number of circulations for the 1985 - 1989 interval after the estimated correction factor has been applied. Even without this factor, the current titles show no severe reduction in average circulation, but rather, remain level or show only a slight decrease. This would show support for previous research that

Table 3. Total number of circulations and percentage of circulations of Dewey classes during 1985 - 1989 by publication date intervals.

Dewey Class	Total Circulation	Publication Date Intervals								
		1910 to 1949	1950 to 1954	1955 to 1959	1960 to 1964	1965 to 1969	1970 to 1974	1975 to 1979	1980 to 1984	1985 to 1989
000	134	-	-	-	-	3 (2.24)	0	11 (8.21)	98 (73.13)	22 (16.42)
100	393	-	-	5 (1.27)	2 (0.51)	10 (2.54)	21 (5.34)	89 (22.65)	131 (33.33)	135 (34.35)
200	401	-	-	38 (9.48)	11 (2.74)	43 (10.72)	42 (10.47)	46 (11.47)	100 (24.94)	121 (30.17)
300	1153	6 (0.52)	8 (0.69)	16 (1.39)	57 (4.94)	121 (10.49)	76 (6.59)	116 (10.06)	363 (31.48)	390 (33.82)
400	75	-	-	-	8 (10.66)	3 (4.0)	-	20 (26.67)	27 (36.0)	17 (22.67)
500	589	16 (2.72)	-	69 (11.71)	33 (5.60)	75 (12.73)	32 (5.43)	144 (24.45)	118 (20.03)	102 (17.32)
600	2787	23 (0.83)	-	47 (1.69)	39 (1.40)	122 (4.38)	217 (7.79)	473 (16.97)	816 (29.28)	1050 (37.67)
700	1377	5 (0.36)	11 (0.80	56 (4.07)	80 (5.81)	170 (12.35)	154 (11.18)	132 (9.59)	412 (29.92)	357 (25.93)
800	450	56 (12.44)	14 (3.11)	31 (6.89)	24 (5.33)	83 (18.44)	43 (9.56)	17 (3.78)	78 (17.33)	104 (23.11)
900	1170	55 (4.70)	4 (0.34)	72 (6.15)	161 (13.76)	135 (11.54)	57 (4.87)	100 (8.55)	292 (24.96)	294 (25.13)

Numbers in parentheses ( ) represent percentage of circulation in each Dewey class.

demonstrates an increased use of current titles (see: Fussler and Simon 1969; Ettelt 1878; and Anderson 1983) and also support current selection practices. However, only philosophy titles (Figure 2) show the distinctive large rise in usage of current titles that mirror these academic library studies. Neither do these results confirm the early Mueller (1965) study findings that reported no substantial circulation rate difference for current titles.

Data gathered from this study seems to indicate that while 1985 - 1989 titles are in demand to fulfill the need for current information, older titles are also heavily used to meet the community's need for accurate and useful information. Histograms representing the sciences and social sciences (Figures 4, 6, 7 and 10) indicate that titles up to 15 years old are used at an increased rate over pre-1975 titles. This same trend is demonstrated in Figure 12 representing the entire sample. One specific instance supporting the usefulness of older titles is the fact that 5 out of the 6 titles sampled in the 1955 -1959 age interval for the science subject classification (500) were zoology titles with 11 or more circulations each within the last 5 years. Humanities subject areas (Figures 3, 8 and 9) show a more even distribution of use for all age intervals. The exception would be philosophy (Figure 2) which exhibited the greatest increase in circulation of current titles. These findings would indicate that currency guidelines suggested in the Standards for Public Library Service in Ohio may be somewhat

restrictive and that a wider time span of 10 to 15 years would be more realistic for a small public library.

In conclusion, this study has shown that the circulating adult nonfiction portion of the FPL collection does meet the currency guidelines suggested in the Standards for Public Library Service in Ohio. Current titles, while important and heavily used, do not show the large increase in usage of 1985 - 1989 titles reported in academic studies (see: Fussler and Simon 1969; Ettelt 1978; and Anderson 1983). FPL usage trends do show consistantly higher usage of titles up to 15 years old in all subject classes, with the humanities indicating a more even distribution of usage of titles from all age intervals.

This study has been significant in that a baseline has been established with which to compare future currency studies. Also evidence indicates that adult nonfiction titles with publication dates falling within the last 15 years seem to fulfill the community's need for current and useful information. Data collected would support future collection development decisions that would balance depth of collection with the constant public demand for new titles.

Future study of the adult nonfiction collection would include client centered surveys to determine patron satisfaction with the collection in fulfilling their information needs. In house use studies of the adult nonfiction collection and/or the noncirculating reference materials would also be a possiblility for future investigation.

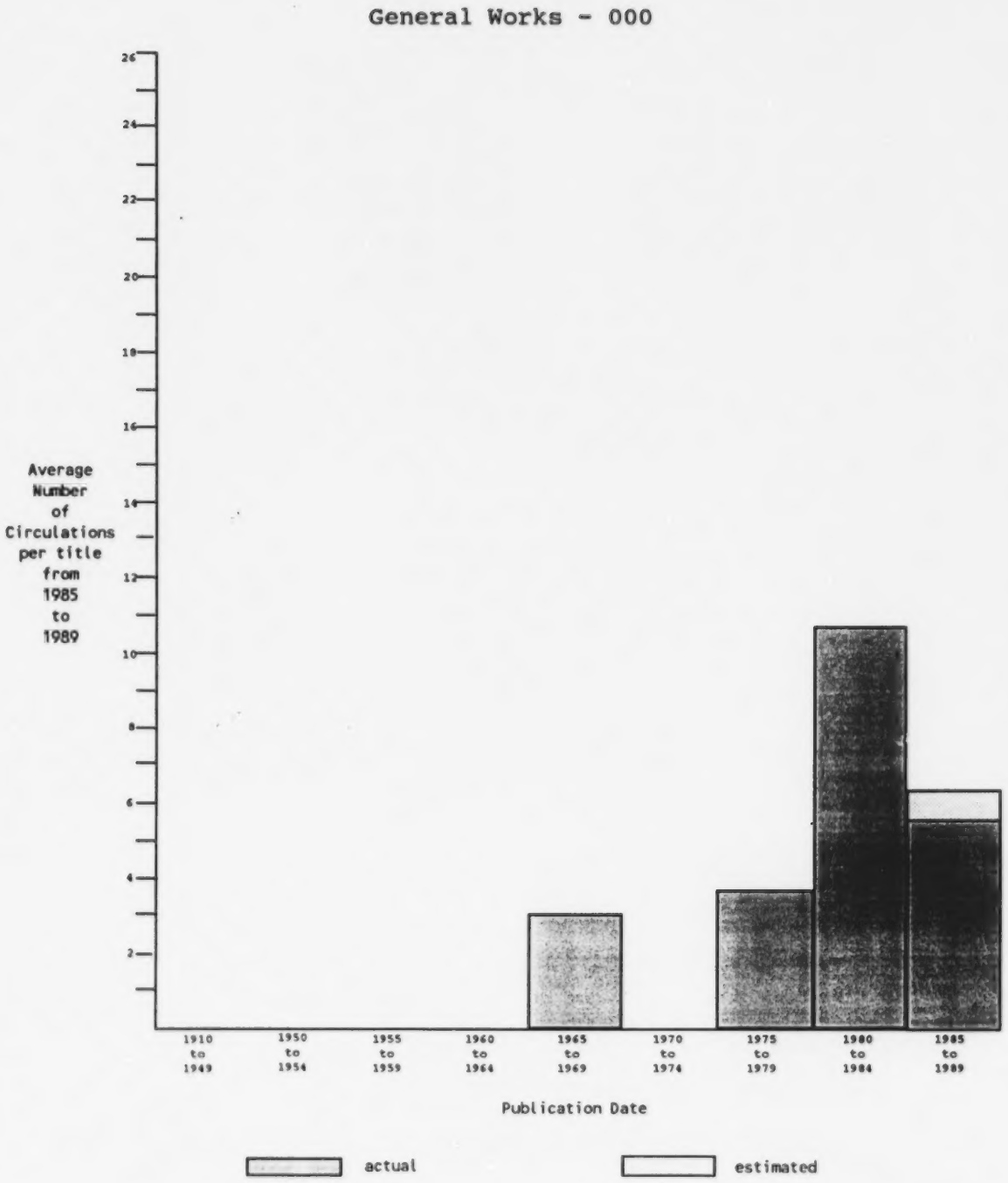

Figure 1. Comparison of use from 1985 - 1989 with age of titles in Dewey subject class 000.

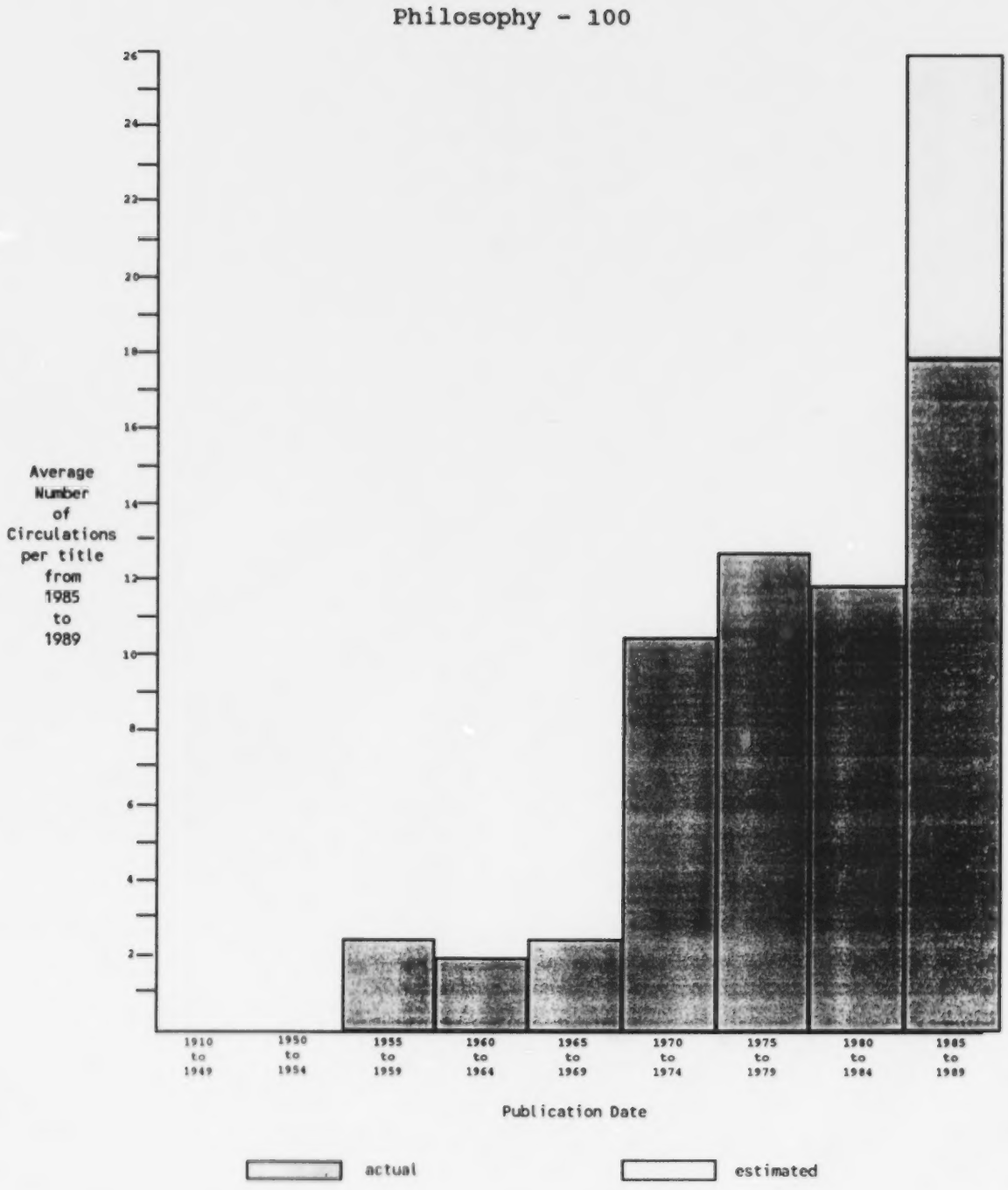

Figure 2. Comparison of use from 1985 - 1989 with age of titles in Dewey subject class 100.

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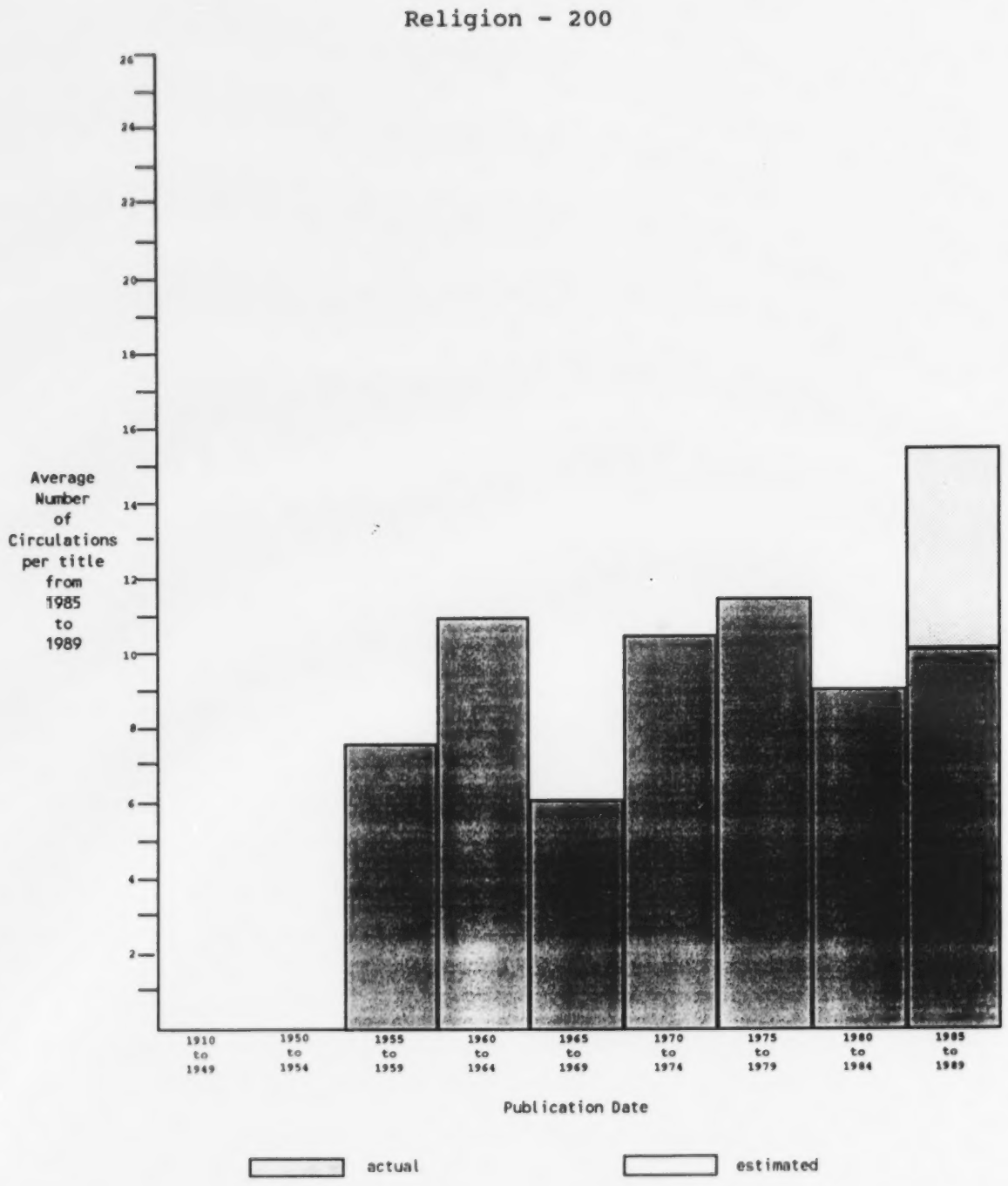

Figure 3. Comparison of use from 1985 -1989 with age of titles in Dewey subject class 200.

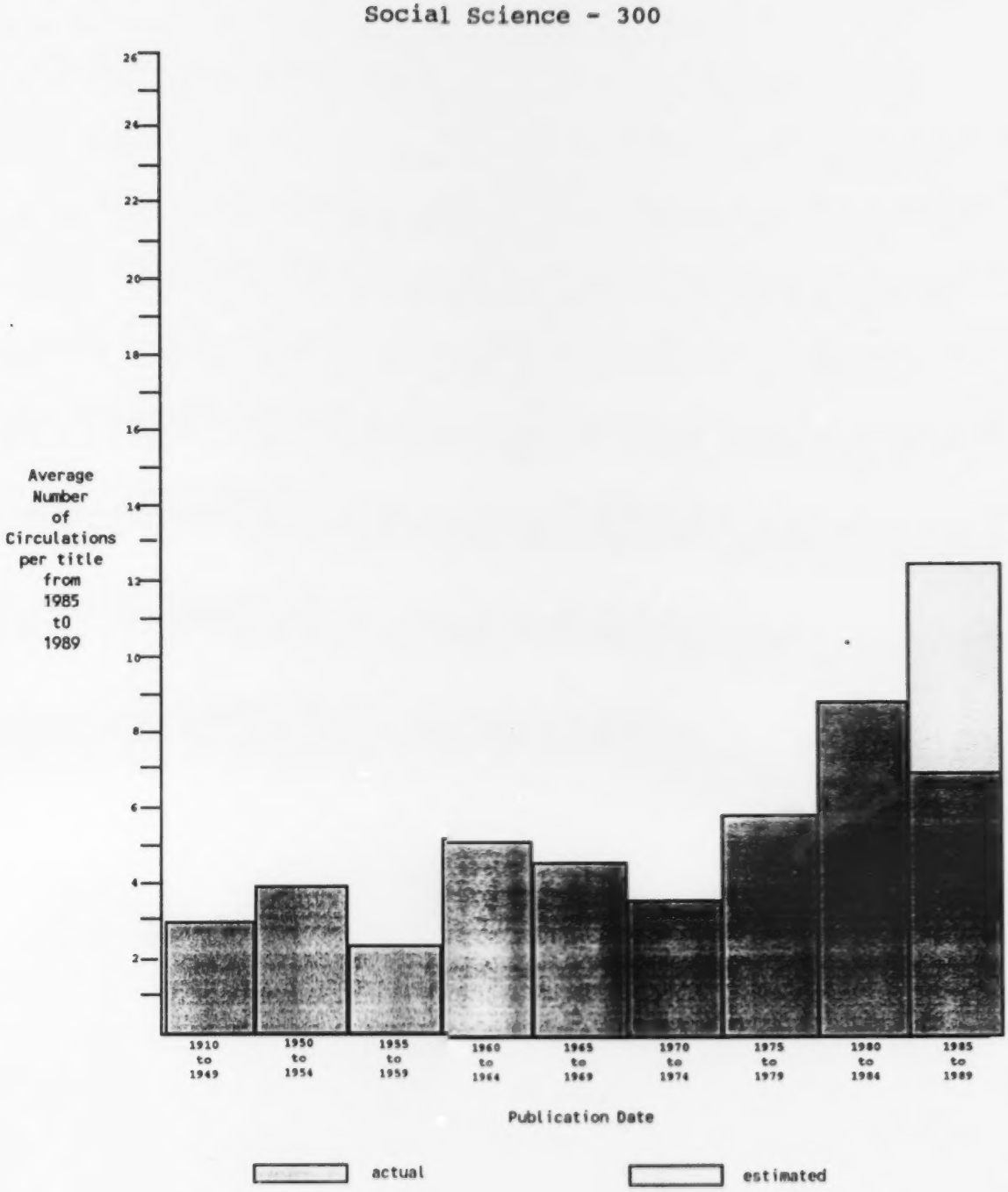

Figure 4. Comparison of use from 1985 - 1989 with age of titles in Dewey subject class 300.

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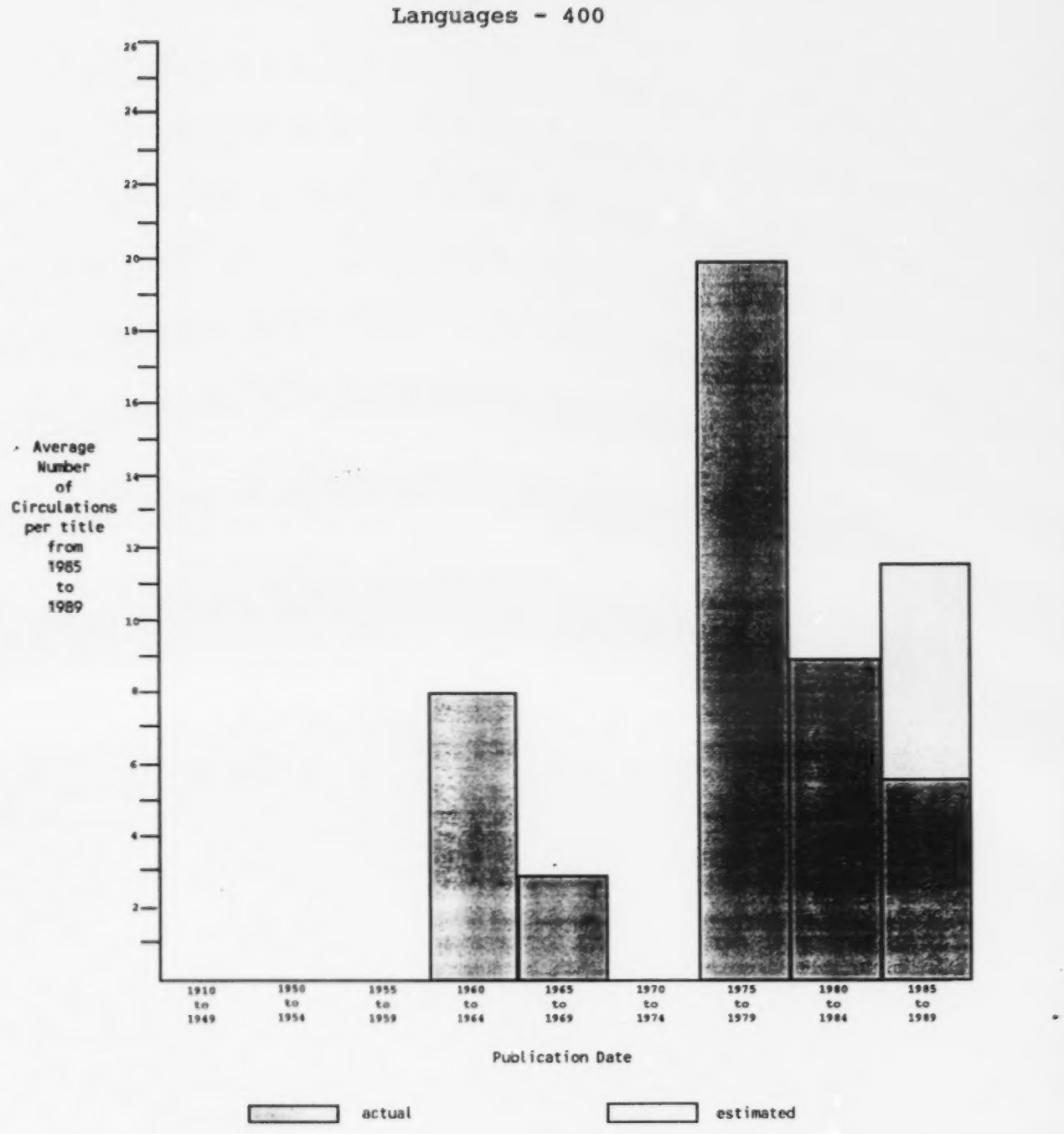

Figure 5. Comparison of use from 1985 - 1989 with age of titles in Dewey subject class 400.

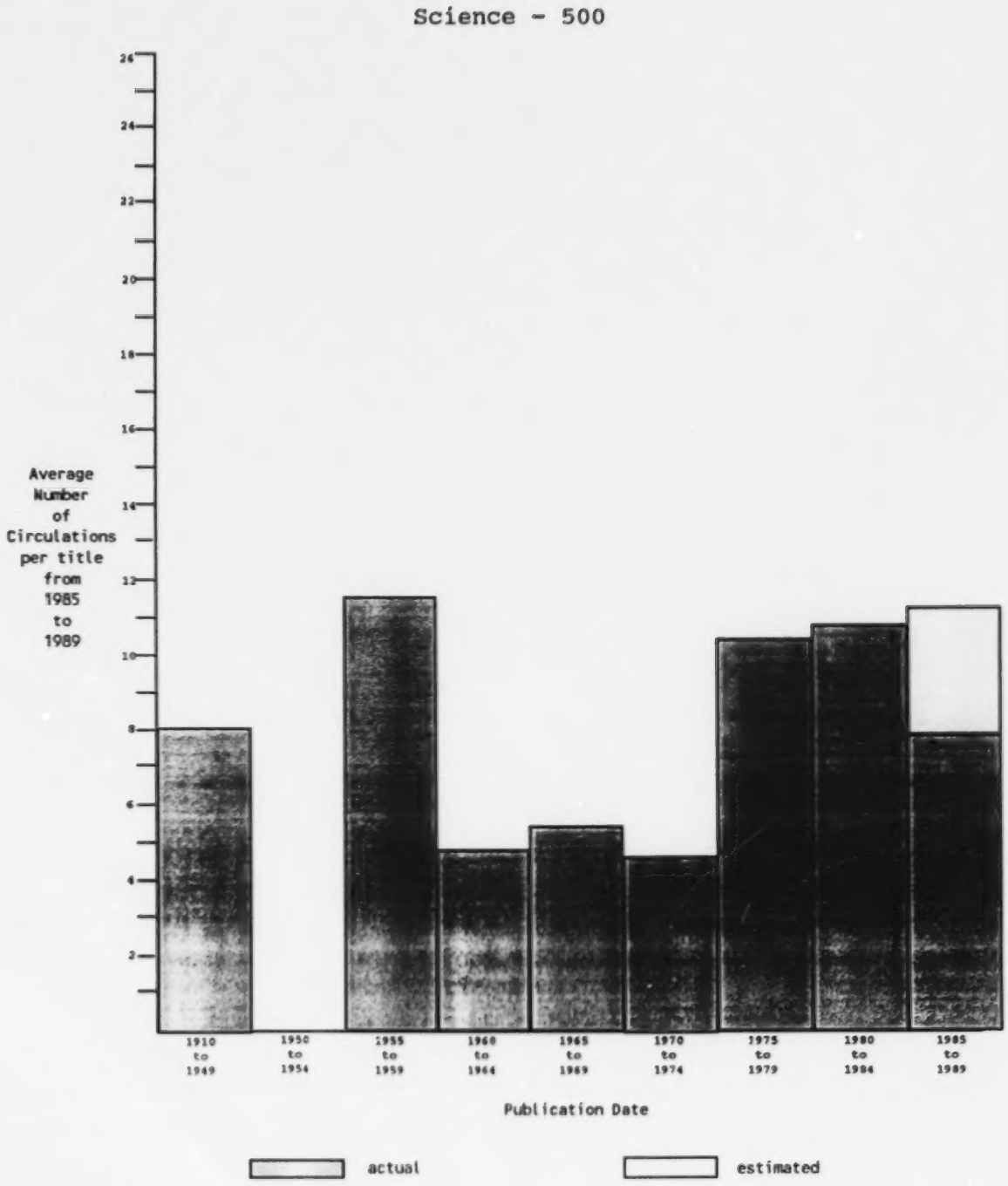

Figure 6. Comparison of use from 1985 - 1989 with age of titles in Dewey subject class 500.

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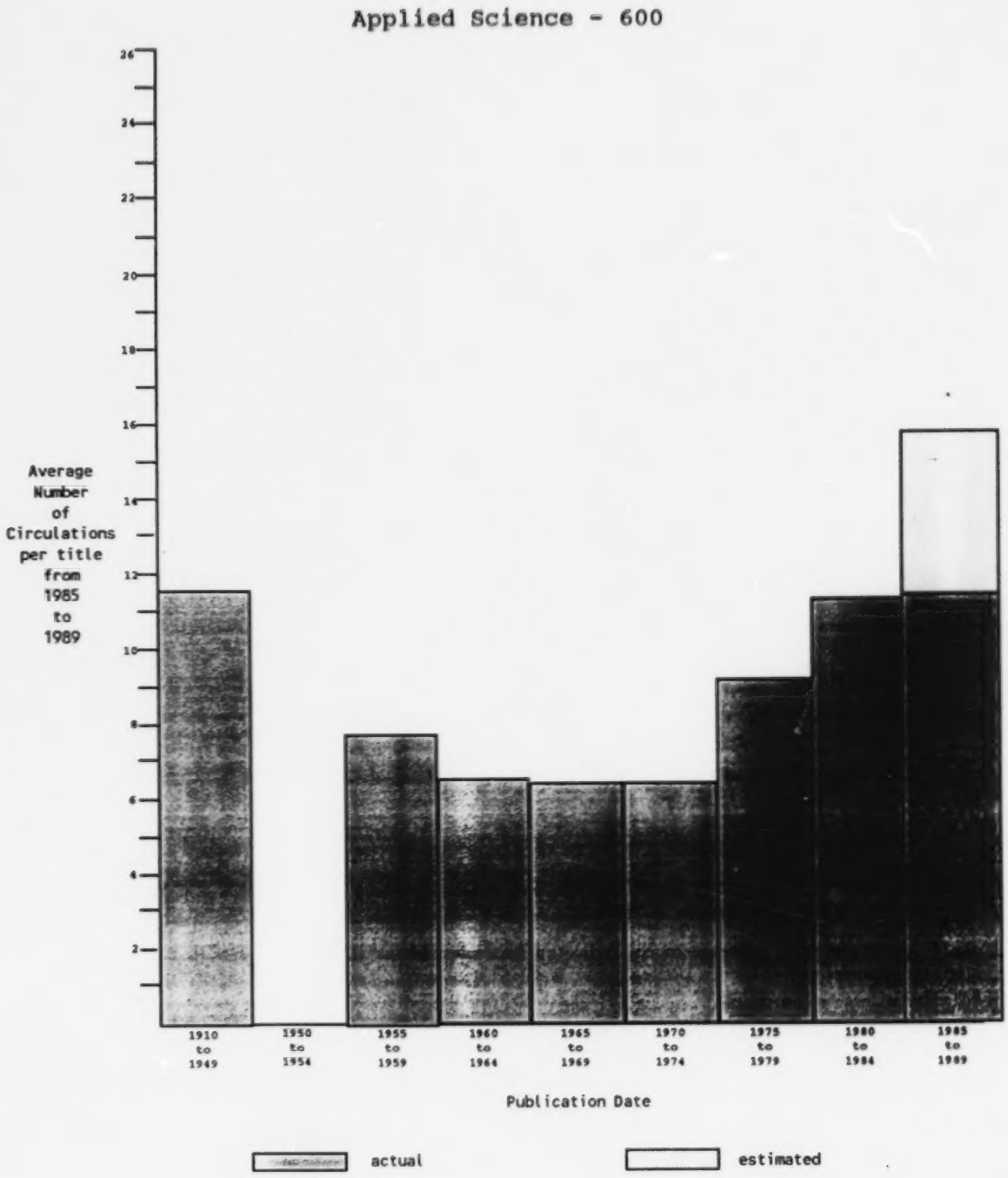

Figure 7. Comparison of use from 1985 - 1989 with age of titles in Dewey subject class 600.

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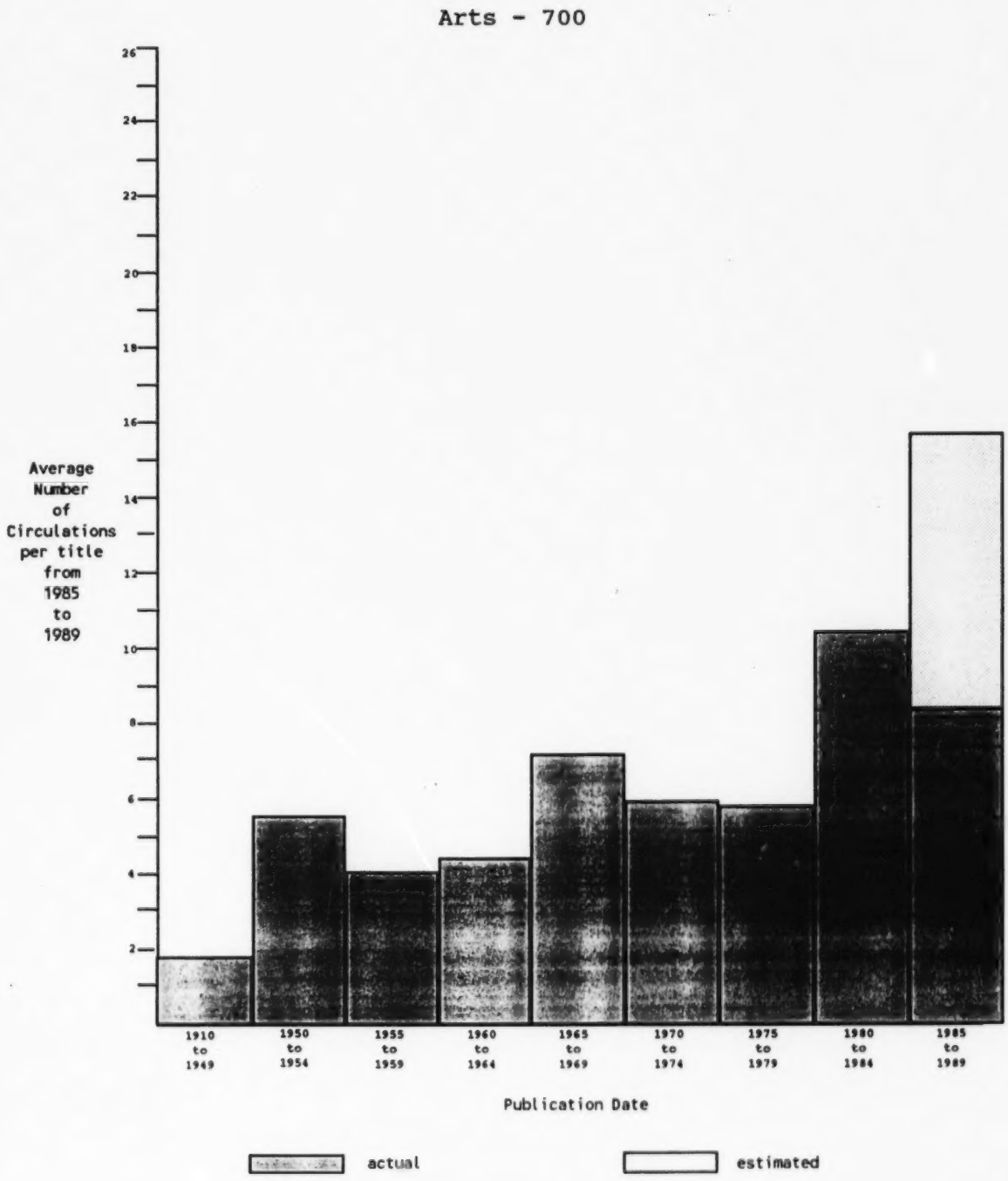

Figure 8. Comparison of use from 1985 - 1989 with age of titles in Dewey subject class 700.

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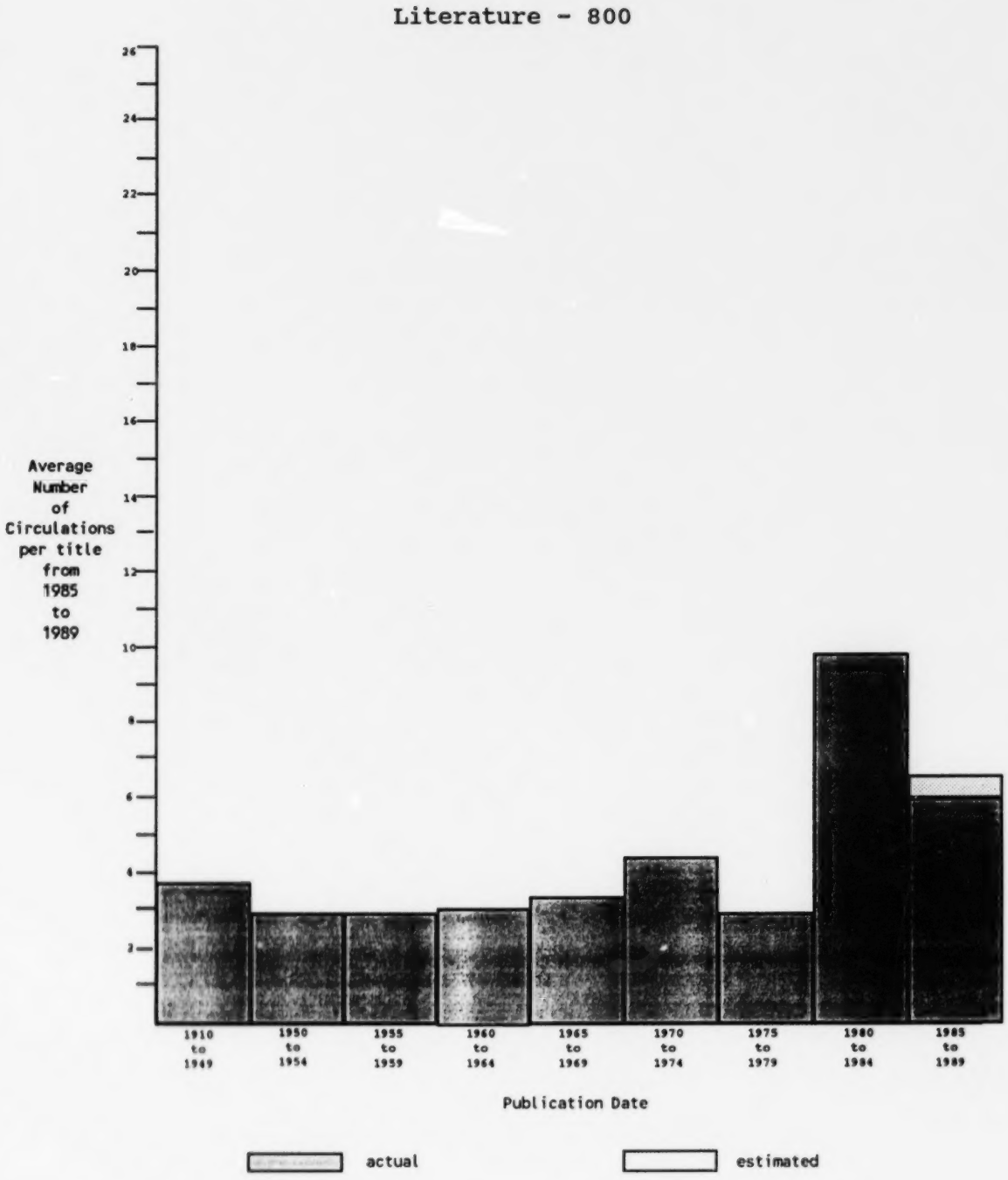

Figure 9. Comparison of use from 1985 - 1989 with age of titles in Dewey subject class 800.

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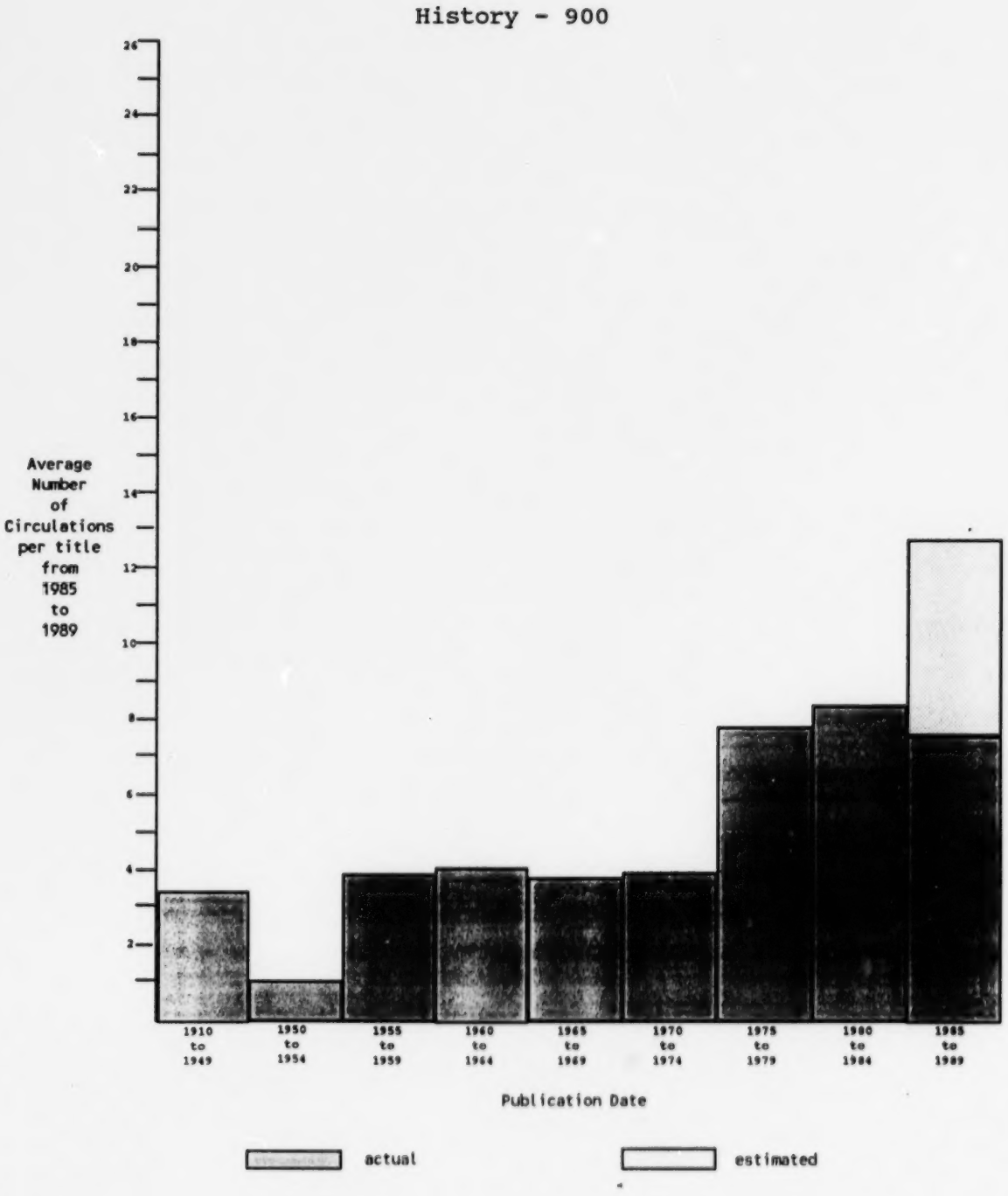

Figure 10. Comparison of use from 1985 - 1989 with age of titles in Dewey subject class 900.

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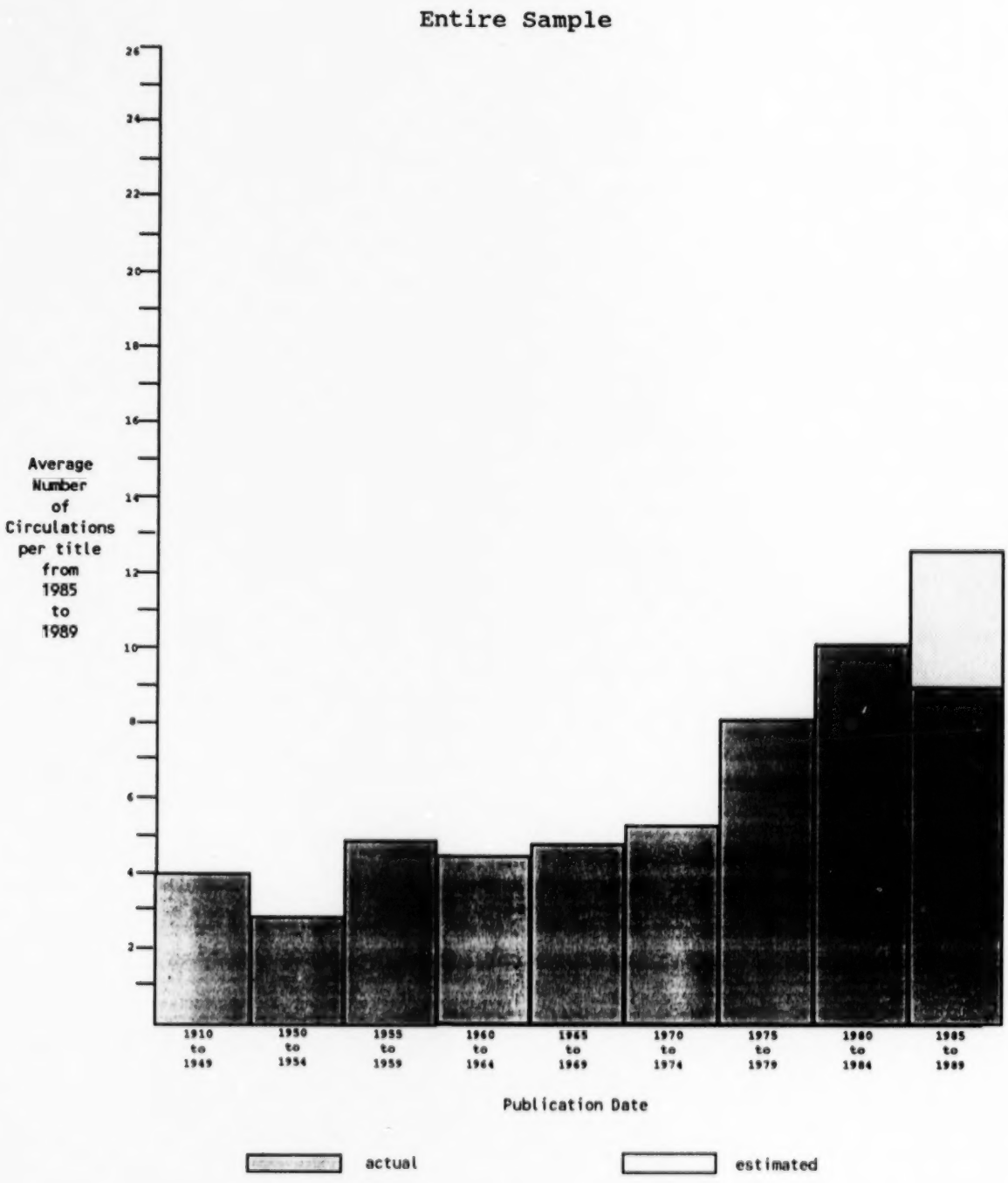

Figure 11. Comparison of use from 1985 - 1989 with age of titles for entire sample.

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